10-15-1996

Computer Literacy for Administrative Law Judges

Emilio Jaksetic

COMPUTER LITERACY FOR ADMINISTRATIVE LAW JUDGES

Emilio Jaksetic[*]

Computers play an increasing role in the United States, daily affecting most Americans, directly and indirectly. Apart from the increasing use of computers and computer-based technology in courts, judges are increasingly faced with computer-generated documents and evidence, and cases where computers or computer technology are at issue. Administrative law judges are not immune from this phenomenon.

Computer technology often advances so rapidly that it seems impossible for anyone who is not a computer professional to keep up with it. Despite the apparent complexity and rapid development of computer technology, an administrative law judge can learn basic computer principles sufficiently to cope with computers without being at the complete mercy of computer professionals.

WHY LEARN ABOUT COMPUTERS?

If you are not motivated to learn about computers because of intellectual curiosity or a simple love of learning, then consider that it is in your self-interest to learn about computers. As computers and computer technology spread throughout American society, administrative law judges need to become knowledgeable about computers for a variety of reasons.

The judicial profession is turning increasingly to computer technology in an effort to deal with its responsibilities more effectively in the face of increasing caseloads and limited budgets.[1] Even if you do not personally use computers, your colleagues and staff may, and you

---

[*] Administrative Judge, Department of Defense, Defense Office of Hearings and Appeals (DOHA); Chairman, DOHA Appeal Board. Member of District of Columbia Bar. The views expressed in this article are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

[1] See, e.g., WHAT'S NEW IN COURT TECHNOLOGY, 32 JUDGES' JOURNAL (SUMMER 1993)(SPECIAL ISSUE).

will be better able to work with them if you know some basic things about computers. Having a basic knowledge about computer technology will increase your ability to use existing computers more effectively and to make reasoned decisions about getting new computers and software programs in the future.

Lawyers are turning to computer technology more frequently to help them represent their clients more effectively[2] If counsel appearing before you know about computers and you do not, you will be at a disadvantage in carrying out your judicial duties when counsel try to introduce computer-generated evidence or computer technology into administrative proceedings.[3] Knowing some basic principles about computers can be helpful if you are presiding over a hearing or proceeding where computers or computer technology are at issue, are relevant to a contested issue, or are being relied on by one of the parties appearing before you. Although personal knowledge of computers cannot be used as a substitute for record evidence, such knowledge can help you:

- ask expert witnesses relevant questions about computers or computer technology pertinent to an administrative proceeding;
- better understand expert testimony about computers or computer technology; and
- make better reasoned rulings on evidentiary matters involving computers or computer technology.

---

[2] For a discussion of this subject from the perspective of a trial attorney, *see* F. Lee Bailey, TO BE A TRIAL LAWYER (2d edition, John Wiley & Sons, 1994) at 191-200. *See also* Kevin M. Hout and Richard De Bodo, *Multimedia technologies aid litigators*, 18 NATIONAL LAW JOURNAL (February 19, 1996) at p. B9, 13 (discussing litigators' use of multimedia in court); Wayne J. Lovett, *Data bases that help win case*, 18 National Law Journal (January 29, 1996) at C1 (reviewing litigation support software programs).

[3] For discussions of computer-generated evidence, *see* Ronald J. Rychlak, REAL AND DEMONSTRATIVE EVIDENCE: APPLICATIONS AND THEORY (Michie, 1995) at pp. 333-377; Timothy W. Cerniglia, *Computer-generated exhibits -- demonstrative, substantive or pedagogical -- Their Place in Evidence*, 18 AMERICAN JOURNAL OF TRIAL ADVOCACY 1 (Summer 1994); Comment, *Reality or virtual reality? The use of interactive, three-dimensional computer simulations at trial*, 19 RUTGERS COMPUTER & TECHNOLOGY LAW JOURNAL 459 (1993).

STARTING THE JOURNEY TO COMPUTER LITERACY

A major obstacle to learning about computers is the fear about dealing with novel things, especially new technology. Computers are not mysterious devices beyond the understanding of ordinary people. Instead, they are a mix of modern technology, simple ideas, and basic operations that -- taken together -- can perform a wide variety of useful tasks. Despite their apparent complexity, computers can be understood by a reasonably diligent person willing to invest some time and effort to learn about them.

When trying to learn about computers, you should keep the following points in mind:

● Computers are not magical machines, but merely high-tech tools created by people, programmed by people, and run by people. Being knowledgeable about such tools will make it easier for you to use them effectively to carry out your duties.

● Despite the differences among different computers and computer-related devices, they all share certain basic features in common. Thus, you can learn basic principles about computer technology without needing to learn a lot about a multitude of different computers or computer-related devices.

● There is a wealth of information available on computers, ranging from the introductory-beginner level to the advanced-expert level. Finding such information is relatively easy.

How to learn about computers depends on you and your situation. If you have any training or experience with computers, then you can build on that training or experience. If you have little or no training or experience with computers, then you face an apparently formidable and daunting task. However, learning about computers is not as difficult as many might think. If you could make it through law school and learn the law, then you should be able to learn about computers and computer-related technology.

COMPUTER TRAINING

Insufficient training is a major obstacle to using computers effectively to increase personal and organizational productivity.[4] Too often, individuals and organizations focus on the purchase of computers and software programs and neglect training, expecting that "on the job training" will somehow occur.[5] Without proper training, neither you nor your staffs can be expected to effectively use computers or the software programs they are intended to run. Valuable work time can be wasted by trying to learn how to use a new computer or software program by "trial and error." Worse still, lack of training can result in user errors that could damage computer files, software programs, or even computer hardware.[6]

Furthermore, a basic knowledge of computers can help you considerably when dealing with the professionals who install and service your agency's or department's computers. Those professionals will be better able to respond to your questions and deal with your desires and concerns if you can communicate with them in terms they understand. In the worst case, user ignorance about computer basics can lead to misunderstandings that contribute to the failure or ineffective implementation of computer projects.[7] Accordingly, computer literacy is necessary to enable administrative law judges to be able to give meaningful input into decisions to purchase and implement new computer systems or software programs, or modify existing ones.

---

[4] See, e.g., Glenn E. Weadock, EXPLODING THE COMPUTER MYTH (Oliver Wright Publications, 1994) at pp. 322-339.

[5] This problem can be aggravated if an organization makes frequent changes in its computer systems. See, e.g., Thomas K. Landauer, THE TROUBLE WITH COMPUTERS: USEFULNESS, USABILITY, AND PRODUCTIVITY (, 1995), at 338.

[6] For examples of how operator errors can cause damage to computers, see, e.g. Peter T. Davis, COMPLETE LAN SECURITY AND CONTROL (Windcrestl, 1994) at pp. 40-41; Marc Farley, Tom Stearns, and Jeffrey Hsu, LAN TIMES GUIDE TO SECURITY AND DATA INTEGRITY (McGraw-Hill, 1996) at 15-17.

[7] See, e.g., Capers Jones, Patterns of Software Systems Failure and Success (International Thomson Computer Press, 1996) at pp. 10-11; Glenn E. Weadock, Exploding the Computer Myth (Oliver Wight Publications, 1994) at pp. 95-130.

For these reasons, computer training should be given a high priority if you expect to use computers effectively. In these times of tight budgets, you may need to justify requests for computer training. Accordingly, when seeking funding from your federal or state agency to get computer training, you should be ready to explain why such training can be cost-effective over the long-run.

Computer training can be obtained from a variety of sources.[8] Occasionally, computer training is offered by contractors in connection with a federal or state contract to install and service computers and computer programs. The General Services Administration (GSA) provides some courses in computers.[9] Employees of federal, state, and local government agencies are eligible for GSA courses. The National Judicial College (NJC) provides occasional courses on computers for judges.[10] The NJC accepts enrollments from administrative law judges. Finally, you should check with your agency or department to ascertain whether it provides any computer training.

The National Institute of Standards and Technology (NIST), a component of the U.S. Department of Commerce, has issued a compilation of courses on computer security and awareness.[11] Although this compilation focuses on computer security courses, it contains valuable information on numerous organizations across the United States that provide computer training.

Learning Computers on Your Own

It would be best to learn about computers by taking courses

---

[8] An interesting discussion about getting effective computer training for judges can be found in Ted Brousseau, *Training to use technology: As important as what you buy*, 32 Judges' Journal 66 (Summer 1993).

[9] For information about such courses, contact the GSA Interagency Training Center at 800-489-7824 or 703-603-3216.

[10] For information about these courses, contact NJC at 800-25-JUDGE or 702-784-6747.

[11] Kathie Everhart (ed.), Computer Security Training & Awareness Course Compendium. NIST Interagency Report (NISTR) 5495, September 1994. Copies may be purchased through the National Technical Information Service, Springfield, Virginia 22161 (telephone: 703-487-3238).

where a trained professional or experienced instructor teaches about computers in an organized, systematic manner. But, it may not be easy to find suitable courses that fit your schedule. Or, you may have the time but not the funding for the computer training you want. As an alternative, you can learn basic principles about computers by reading on your own. Even if you can get some computer training, you should supplement it by reading in the subject area.

There are numerous magazines and thousands of books on computers and computer-related technology. The hard part is not finding such reading material, but figuring out how to deal with it in a reasonable manner without becoming overwhelmed by the mass of available publications. What follows are some suggestions on learning about computers by reading about them in a systematic way.[12]

You should not focus solely on publications dealing with specific brands of computers or specific software programs. Although reading such materials can be helpful in learning about a specific computer or software program that you use or work with, it will not be very useful in gaining a broader understanding of basic computer terminology and concepts. Rather, you should try to learn about computers and computer technology in general without limiting yourself to any particular proprietary computer system, computer technology, or software program.

Various publications have articles about the use of computers and computer technology by lawyers and judges. The National Center for State Courts publishes the bimonthly Court Technology Bulletin, which is a useful source of information that can be helpful to administrative law judges.[13] The Judges' Journal occasionally publishes

---

[12] There is a bibliography of suggested books on computers and computer technology at the end of this article.

[13] The National Center for State Courts also has a very informative Web home page. If you have access to the Internet, you can locate this home page at http://www.ncsc.dni.us/ncsc.htm. The home page has hypertext links to many interesting subjects, including various discussions of computer technology.

informative articles on computers and computer technology.[14] Other legal publications, such as the <u>National Law Journal</u>, frequently carry articles of interest to the legal profession.[15]

You should be patient when reading the first few books on computers. Initially, much of the terminology and concepts may be novel and seem difficult to learn. However, as you progress, the terminology and concepts will become more familiar and easier to understand.[16] Think of it as an experience similar to first year of law school, trying to adjust to the language and concepts of the law. Be patient and stick with it, and you should do fine.

Start with some books that describe computers in terms of their basic components and basic operations. Reading these types of books will provide the basic concepts and information needed to build on for learning more about computers. Ideally, you should read more than one or two of these books to gain some familiarity with basic computer concepts and terminology.

After reading some general, introductory books, you should focus on some basic areas of computers such as:

● computer hardware and software;

● computer programming;

● data communications and computer networks; and

---

[14] *See, e.g.*, David Weinberg, *Animation in the court: scientific evidence or Mickey Mouse?* 34 Judges' Journal 11 (Spring 1995); Charles P. Rippey, *Computer-assisted decision writing*, 33 Judges' Journal 36 (Summer 1994).

[15] *See, e.g.*, Thomas S. Scharbach, *Untangling the Web is key to 'Net legal research*, 18 National Law Journal (July 1, 1996) at p. C16; Jordan S. Gruber, *Potential for fabricating recorded evidence grows*, 18 National Law Journal (April 22, 1996) at p. B13+; Victoria Slind-Flor, *Moving into cyberspace as notaries*, 18 National Law Journal (December 18, 1995) at p. A1+.

[16] A dictionary of computer terminology can be a useful adjunct to reading computer books. Several computer dictionaries are listed in the bibliography at the end of this article.

- computer security.

Even if you have little or no computer training or experience, do not let these topics intimidate or discourage you.   With patience and perseverance, you can learn a fair amount about these topics. More importantly, if you tackle these basic areas successfully, you will have a very solid foundation in computers and computer technology. With such a foundation, you will find it much easier to learn about other, more complex aspects of computers.

After you have gained some familiarity with the basic concepts and terminology of computers, you should consider learning about some of the following subjects:

- computer ethics;

- multimedia;

- databases; and

- computer graphics and animation.

If you can learn the basics about these topics, you will have a very broad base of information and knowledge about computers and computer technology, including: what it is, how it works, and various ways it is used in modern American society.

Most of the literature on computers presents a favorable, often promotional, picture of computers, their uses, and their potential. To gain some balance and perspective, you should read some books on the limitations and drawbacks of computers. (Several such books are listed in a section of the computer bibliography at the end of this article.) Having such knowledge will provide a useful antidote to unrealistic expectations about computers and computer technology.

Computers and the law

There is a growing body of literature about computers and the law. Some publications focus on how computer technology can be used by the legal profession.[17] Others deal with the effects of computer technology on the legal profession.[18] Still other publications discuss various legal issues raised by computer technology.[19] These kinds of publications can be helpful to administrative law judges. However, you will be able to get more out of reading these publications if you have a basic knowledge of computers and computer technology.

A COMPUTER BIBLIOGRAPHY

The books listed below can provide a starting point to learn about computers and computer technology. It is not unusual for some computer books to be reissued in a new edition every few years. Accordingly, try to find the latest edition of a computer book before buying it or reading it.

COMPUTER DICTIONARIES

Alan Freedman, THE COMPUTER GLOSSARY (7th edition) (American Management Association, 1995)

Bryan Pfaffenberger, COMPUTER & INTERNET DICTIONARY (6th edition) (QUE Corporation, 1995)

Shnier, Mitchell, DICTIONARY OF PC HARDWARE AND DATA

---

[17] *See, e.g.,* G. Burgess Allison, The Lawyer's Guide to the Internet (American Bar Association, 1995); V. Mital and L. Johnson, Advanced Information Systems for Lawyers (Chapman & Hall, 1992).

[18] *See, e.g.,* M. Ethan Katsh, Law in a Digital World (Oxford University Press, 1995).

[19] *See, e.g.,* Edward A. Cavazos and Gavino Morin, Cyberspace and the Law: Your Rights and Duties in the On-Line World (MIT Press, 1994); Lance Rose, Netlaw: Your Rights in the Online World (Osborne McGraw-Hill, 1995); Kenneth S. Rosenblatt, High-Technology Crime: Investigating Cases Involving Computers (KSK Publications, 1995); Thomas J. Smedinghoff (editor), Online Law: The SPA's Legal Guide to Doing Business on the Internet (Addison-Wesley Publishing, 1996).

COMMUNICATIONS TERMS (O'Reilly & Associates, 1996)

INTRODUCTION TO COMPUTERS

Kenneth C. Laudon, Carol G. Traver, and Jane P. Laudon, INFORMATION TECHNOLOGY: CONCEPTS AND ISSUES (Boyd & Fraser Publishing, 1995)

James Radlow, COMPUTERS AND THE INFORMATION SOCIETY (2d edition) (Boyd & Fraser Publishing, 1996)

COMPUTER HARDWARE/SOFTWARE

Peter Norton, INSIDE THE PC (6th edition) (SAMS Publishing, 1995)

Ron White, HOW COMPUTERS WORK (2d edition) (Ziff-Davis Press, 1994)

Ron White, HOW SOFTWARE WORKS (Ziff-Davis Press, 1993)

Gregg Wyant and Tucker Hammerstrom, HOW MICROPROCESSORS WORK (Ziff-Davis Press, 1995)

COMPUTER PROGRAMMING

Daniel Appleman, HOW COMPUTER PROGRAMMING WORKS (Ziff-Davis Press, 1994)

Greg Perry, ABSOLUTE BEGINNER'S GUIDE TO PROGRAMMING (SAMS Publishing, 1993)

L. John Ribar, THE PROGRAMMING PRIMER: A GUIDE TO PROGRAMMING FUNDAMENTALS (Osborne McGraw-Hill, 1994)

DATA COMMUNICATIONS/COMPUTER NETWORKS

Frank J. Derfler & Les Freed, HOW NETWORKS WORK (Ziff-Davis

Press, 1996)

Mark Gibbs, ABSOLUTE BEGINNER'S GUIDE TO NETWORKING (2d edition) (SAMS Publishing, 1995)

Preston Gralla, HOW THE INTERNET WORKS (Ziff-Davis Press, 1996)

Karen Watterson, CLIENT/SERVER TECHNOLOGY FOR MANAGERS (Addison-Wesley Publishing, 1995)

COMPUTER SECURITY

Richard H. Baker, NETWORK SECURITY HOW TO PLAN FOR IT AND ACHIEVE IT(McGraw-Hill, 1995)

Marc Farley, Tom Stearns and Jeffrey Hsu, LAN Times Guide to Security and Data Integrity (Osborne McGraw-Hill, 1996)

Karen A. Forcht, Computer Security Management (Boyd & Fraser Publishing, 1994)

Simson Garfinkel and Gene Spafford, Practical UNIX & Internet Security (2d edition) (O'Reilly & Associates, 1996)

Barbara Guttman and Edward Roback (eds.), An Introduction to Computer Security: The NIST Handbook (NIST Special Publication 800-12) (U.S. Government Printing Office, 1995)

Michel E. Kabay, The NCSA Guide to Enterprise Security: Protecting Information Assets (McGraw-Hill, 1996)

Computer Ethics

Tom Forester and Perry Morrison, Computer Ethics: Cautionary Tales and Ethical Dilemmas in Computing (2d edition) (MIT Press, 1994)

Deborah G. Johnson and Helen Nissenbaum, <u>Computers, Ethics & Social Values</u> (Prentice-Hall, 1995)

Rob Kling (ed.), <u>Computerization and Controversy: Value Conflicts and Social Choices</u> (Academic Press, 1996)

Multimedia

Jeff Burger, <u>Multimedia for Decision Makers: A Business Primer</u> (Addison-Wesley Publishing, 1995)

Erik Holsinger, <u>How Multimedia Works</u> (Ziff-Davis Press, 1994)

Aaron E. Walsh, <u>Destination Multimedia</u> (IDG Books, 1995)

DATABASES

Kenneth C. Laudon, Carol G. Traver, and Jane P. Laudon, INFORMATION TECHNOLOGY: CONCEPTS AND ISSUES (Boyd & Fraser Publishing, 1995), pp. 210-220

James Radlow, COMPUTERS AND THE INFORMATION SOCIETY (2d edition) (Boyd & Fraser Publishing, 1996), pp. 245-288

COMPUTER GRAPHICS AND ANIMATION

Joshua Eddings, HOW VIRTUAL REALITY WORKS (Ziff-Davis Press, 1994)

Issac V. Kerlow, THE ART OF 3-D COMPUTER ANIMATION AND IMAGING (Van Nostrand Reinhold, 1996)

Pamela Pfiffner and Bruce Fraser, HOW DESKTOP PUBLISHING WORKS (Ziff-Davis Press, 1994)

Jeff Prosise, HOW COMPUTER GRAPHICS WORK (Ziff-Davis Press, 1994)

COMPUTERS: LIMITATIONS AND PROBLEMS

Peter G. Neumann, COMPUTER-RELATED RISKS (ACM Press, 1995)

Nancy G. Leveson, SAFEWARE: SYSTEM SAFETY AND COMPUTERS (Addison-Wesley Publishing, 1995)

Clifford Stoll, SILICON SNAKE OIL: SECOND THOUGHTS ON THE INFORMATION HIGHWAY (Doubleday, 1995)

Henry M. Walker, THE LIMITS OF COMPUTING (Jones and Bartlett Publishers, 1994)

Glenn E. Weadock, EXPLODING THE COMPUTER MYTH (Oliver Wight Publications, 1994)

Lauren R. Weiner, DIGITAL WOES: WHY WE SHOULD NOT DEPEND ON SOFTWARE (Addison-Wesley Publishing, 1993, 1994)